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ABSTRACT

A project was conducted in Virginia to develop a coordinated, articulated, competency-based curriculum for selected industrial arts areas from an identified common core of competencies. The competencies would include a set of performance objectives, a set of criterion-referenced measures, and a set of instructional resource guides in the industrial arts program areas of basic technical drawing, engineering drawing, and architectural drawing. A committee of teachers from participating high schools developed the instructional resource guides through the following procedures: (1) developed a first draft in the state-approved format; (2) field tested the first drafts; (3) evaluated the effectiveness of the instructional resource guides through evaluation instruments; (4) met with project supervisors on the procedures for final editing of the guides; (5) edited and finalized the instructional resource guides in the state-approved guide format; and (6) typed and submitted the final copies of the instructional resource guides to the State Department of Education. A field test of the guides was successful, and the guides are now being used at the targeted schools. Recommendations were made to follow up students after the program has been in operation for 1 year and for the state to establish procedures to develop additional guides. (KC)

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ED232047

Final Report

"Development of Instructional Resource Guides for Competency-Based Education in Selected Industrial Arts Areas"

Development Project
Conducted Under
Vocational Education Amendments of 1976
Public Law 94-482

Cecil G. Phillips Jr., Project Director
Charlotte A. Kuchinsky, Assistant Project Director

Thomas Nelson Community College
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Hampton, Virginia 23670

January 30, 1983

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Abstract
"Development of Instructional Resource Guides
for Competency-Based Education
in Selected Industrial Arts Areas"

July 1, 1982 - June 30, 1983

OBJECTIVES OF THE PROJECT:

1. To develop a coordinated articulated competency-based curriculum derived from an identified common core of competencies which includes a set of performance objectives, a set of criterion-referenced measures, and a set of instructional resource guides in the industrial arts program areas of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing.

2. To evaluate the effectiveness of the developed instructional resource guide as evidenced by field testing of the developed materials in the participating school divisions during the Fall, 1982, quarter.

PROCEDURES FOLLOWED:

1. Developed first draft copies of the instructional resource guides in the state approved guide format.

2. Field tested the first draft copies of the instructional resource guides.

3. Evaluated the effectiveness of the instructional resource guides through the use of developed instruments.

4. Met with Dr. Ralph Horne and Ms. Flo Armstrong on the procedures for final editing of the instructional resource guides.

5. Edited and finalized the instructional resource guides in the state approved guide format.

6. Typed and submitted the finalized copies of the instructional resource guides to the Supervisor for the Research Coordinating Unit, State Department of Education.

RESULTS AND ACCOMPLISHMENTS:

All goals and objectives of the project were met or exceeded five months prior to the June 30, 1983, deadline.

EVALUATION:

The project was extremely successful due to the efforts of the participants involved and the outstanding support of the State Department of Education.

CONCLUSIONS AND RECOMMENDATIONS:

The project is complete and successful implementation is taking place at this time.

"Development of Instructional Resource Guides
for Competency-Based Education
In Selected Industrial Arts Areas"

July 1, 1982 - June 30, 1983

The project is directed toward the development of a coordinated articulated competency-based curriculum which includes a set of tasks and performance objectives, a set of criterion-referenced measures, and instructional resource guides in the industrial arts program areas of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing.

Goals and Objectives

1. To develop a coordinated articulated competency-based curriculum derived from an identified common core of competencies which includes a set of performance objectives, a set of criterion-referenced measures, and a set of instructional resource guides in the industrial arts program areas of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing.

2. To evaluate the effectiveness of the developed instructional resource guides as evidenced by field testing of the developed materials in the participating school divisions during the Fall, 1982, quarter.

Target Population

The target population for this project included the senior high school students who are enrolled in the industrial arts program areas of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing. The faculty, guidance, and administrators of the participating institutions who are responsible for the above mentioned program areas were also directly involved in the project:

SCHOOLS	NUMBER OF STUDENTS INVOLVED
Hampton City Schools	589
Newport News City Schools	336
Poquoson City Schools	85
Williamsburg-James City County Schools	160
York County Schools	230
	1,370

Project Design

Three industrial arts areas have been identified for articulation at this time. These areas are Basic Technical Drawing, Engineering Drawing, and Architectural Drawing.

In order to implement this project it was necessary to develop instructional resource guides for these three industrial arts areas. The three guides were developed by the Drafting Curriculum Development Committee that wrote the trade and industrial guide for Mechanical Drafting in conjunction with the Virginia Peninsula Articulation Project (1979-1982). This committee consisted of teachers from the participating school divisions of Hampton and Newport News.

The validated task list for the Mechanical Drafting Instructional Resource Guide and the Industrial Arts Education Competency Catalogs developed by the State Department of Vocational and Industrial Arts Education, Old Dominion University, served as the foundation for the three instructional resource guides. The same task numbers that were used in the Mechanical Drafting Instructional Resource Guide were used in the industrial arts instructional resource guides for ease of articulation (both horizontally and vertically) between programs. In addition, every effort was made to coordinate the industrial arts Architectural Instructional Resource Guide developed by Central Virginia Community College. This process will insure the effective articulation of a student (both horizontally and vertically) between industrial arts and trade and industrial drawing/architectural drafting programs with a minimum of duplication of effort and without gaps appearing in the program.

Procedures Followed

The commitment to bring about a coordinated articulated competency-based curriculum on the Peninsula began when a group from the Peninsula attended a conference on articulation at Virginia Polytechnic and State University (Virginia Tech) in October of 1978. Following this conference it was decided to apply for an articulation grant. This grant was awarded in March, 1979 and ran through June, 1982. As a result of this project an Executive Committee was formed consisting of a representative from each of the local education agencies (LEAs) of Hampton, Newport News, York County, Williamsburg-James City County, Poquoson, the Virginia Peninsula Vocational-Technical Education Center, and Thomas Nelson Community College. (See Appendix A for a listing of the Executive Committee.)

The articulation model, program of activities, and procedures, e.g., orientations and staff development, written agreements, and organizational structures developed by the Virginia Peninsula Articulation Project were most useful in the successful implementation of this current project. These included:

1. Written agreements by the chief administrative personnel of the participating institutions. (See Appendix B for copies of these agreements.)

2. An established Articulation Advisory Committee representative of faculty, administration, guidance, supervision, and vocational education advisory council members of the participating institutions. (See Appendix C for a listing of these personnel.)

3. An established Drafting Curriculum Development Committee. (See Appendix D for a listing of these personnel.)

4. A Computerized Student Profile used for horizontal and vertical matriculation of students among the participating institutions. (See Appendix E for a copy of this profile.)

5. An Articulation Newsletter established as a communications network among the institutions, the community, and the students. (See Appendix F for a copy of this newsletter.)

6. Articulation/CBE materials purchased and made available to the writing team members. (See Appendix G for a copy of these materials.)

7. An established field test procedure for use of evaluation instruments developed.

8. Audiovisual presentations completed in conjunction with the Coordination Project. (See Appendix H for a listing of these presentations.)

9. An inservice program for participating faculty, administrators, guidance, supervisors, and vocational education advisory council members of each of the participating institutions.

Upon completion of the original Articulation Project on June 30, 1982, the Executive Committee decided to apply for another grant to develop a coordinated articulated curriculum in the industrial arts program areas covered by this project.

The Drafting Curriculum Development Committee which served as writing team members for the Mechanical Drafting Instructional Resource Guide (trade and industrial) also served as the writing team for completion of the instructional resource guides in the areas of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing. Using, as a foundation, the Mechanical Drafting Instructional Resource Guide and the Industrial Arts Education Competency Catalogs developed by the Department of Vocational and Industrial Arts Education (Old Dominion University) the curriculum development committee completed the first draft copies of the instructional resource guides in these three industrial arts areas.

During the first nine-week period of Fall, 1982, volunteer instructors from participating institutions field tested the drafted copies of the instructional resource guides. (See Appendix I for a listing of these personnel.)

The Project Director, Cecil G. Phillips Jr., and Assistant Project Director, Charlotte A. Kuchinsky, visited the field test sites during the field test procedure to assist the instructors with orientation and to ascertain problems they were encountering. (See Appendix J for a compiled report of these visits.)

The Executive Committee met to update the project procedures and design. (See Appendix K for the minutes of this meeting.)

The previously formed Articulation Advisory Committee sub-committee for the evaluation of drafting programs made on-site visitations of field test sites. During these visitations data was collected from both the teacher and selected students. In addition, the Advisory Committee Site Review Guide was completed. (See Appendix C for a listing of the involved personnel and Appendices L-N for a compiled report of these visitations.)

An Articulation Newsletter was distributed to participating institutions to keep the public informed of progress on this project. (See Appendix F)

The Project Director and Assistant Project Director met with Dr. Ralph Horne, Project Director for the Coordination Project, and Ms. Flo Armstrong, Director of the Vocational Education Curriculum Center in order to make editorial changes to the IRGs in the final typing process to assist the Curriculum Center in their editing process.

A semi-annual report was submitted to the Supervisor of the Coordinating Research Unit, State Department of Education.

An edited finalized original typed copy of each of the three instructional resource guides (Basic Technical Drawing, Engineering Drawing, and Architectural Drawing) was submitted to the Supervisor of the Research Coordinating Unit, State Department of Education. (See Appendices O and P for the Guide Application information.)

Accomplishments

1. Instructors field tested the first draft copies of the three instructional resource guides of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing in the Fall, 1982, quarter.

2. Revisions were made to the instructional resource guides based upon recommendations from the field test instructors and Dr. Ralph Horne and Ms. Flo Armstrong.

3. An evaluation of the instructional resource guides' content was accomplished by the Articulation Advisory Committee sub-committee for drafting.

4. An edited finalized original typed copy of each of the three instructional resource guides in the state approved format was submitted to the Supervisor of the Research Coordinating Unit, State Department of Education.

Evaluation

1. The project completed its goals and objectives ahead of schedule.

2. The overall response to the project was positive.

3. The project has received outstanding support and cooperation from the chief administrative officers of each participating institution.

4. The cooperation of the State Department of Education's staff and personnel is outstanding.

5. The teachers assigned to the Curriculum Development Committee produced above and beyond all expectations.

6. The teachers assigned to field test the instructional resource guides were very cooperative and provided valuable feedback for the development of final products.

7. The Articulation Advisory Committee's reports for on-site visitations were very positive.

Conclusions

Due to the on-site visitations and evaluation the following conclusions can be made:

1. The majority of the instructors involved in the field testing of the instructional resource guides found them to be an invaluable tool in implementing competency-based education in the classroom.

2. The students are more aware of the advantages of competency-based education and program articulation possibilities.

Recommendations

1. Recommend that the structure of the Executive Committee be retained to act as a "Steering Committee" to assure the successful maintenance of articulation and implementation of new instructional resource guides as they become available from the State Department of Education.

2. Recommend the state establish a mechanism for the development of additional curriculum materials to supplement the instructional resource guides.

3. Recommend that a follow-up survey be completed on articulated students after the program has been in operation for a minimum of one year.

4. Recommend that all Vocational Education Directors, supervisors, and teachers be inserviced in how to use the instructional resource guide and implement competency-based education according to state standards.

5. Recommend that all community colleges work more closely with the secondary schools in their service areas and implement articulation agreements.

6. Recommend that more communication take place between the State Board of Education and the Virginia Community College System board.

EXECUTIVE COMMITTEE

Elvin H. Adams, Director of Vocational Education, York County Public Schools
John F. Cooper, Dean of Instruction, Thomas Nelson Community College (replace Joseph Peone in September, 1982)
Jean Epps, Project Co-Director (represents Newport News City Schools)
Fletcher Gray, Assistant Superintendent, Poquoson City Schools
Charlotte A. Kuchinsky, Assistant Project Director (represents Thomas Nelson Community College)
Cecil Phillips, Project Director (represents Thomas Nelson Community College)
William H. Sharpe, Executive Committee Co-Chairman (represents Williamsburg-James City County Schools)
Robert Suber, Director of Vocational Education, Hampton City Schools
O.E. Ware, Executive Committee Chairman (represents the Peninsula Vocational-Technical Education Center)
The Superintedent in Charge of Peninsula Vocational-Technical Education Center in rotation--John Allen (Williamsburg-James City County Schools) for 1982-1983

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William H. Sharpe, Executive Committee Co-Chairman (represents Williamsburg-James City County Schools)
Robert Suber, Director of Vocational Education, Hampton City Schools
O.E. Ware, Executive Committee Chairman (represents the Peninsula Vocational-Technical Education Center)
The Superintedent in Charge of Peninsula Vocational-Technical Education Center in rotation--John Allen (Williamsburg-James City County Schools) for 1982-1983

ARTICULATION AGREEMENT

This agreement is made between Thomas Nelson Community College and The Virginia Peninsula Vocational-Technical Education Center.

We hereby agree to the following:

1. Participating instructors at the secondary and post-secondary level will formally adopt and teach from a list of competencies (task list) based on job-entry level task requirements. Criteria for evaluation and recording levels of competencies will also be formally adopted.

2. Prior to the beginning of the academic year, a meeting will be scheduled to review each occupational area and amend, as necessary, the occupational task lists, grading systems, recording forms, and objective reference tests or criterion-referenced measures to establish levels of competency. The directors of vocational education of each participating school division and the Virignia Peninsula Vocational-Technical Education Center, the appropriate division chairman at Thomas Nelson Community College, program heads, supervisors, and teacher representatives (as required) will attend.

3. The school division will maintain a competency record for each student which identifies areas and levels of task achievement. This record will become a part of the student's official record and will be forwarded to Thomas Nelson Community College as part of the student's high school transcript.

4. Credit at Thomas Nelson Community College will be granted for competencies mastered at an achievement level of 3.0 or better on a scale 0-4, as defined in the respective instructional resource guides providing continuation of study in the program area begins within two academic years after graduation from the secondary school.

5. The college will provide a list of current courses for which advanced credit (in total or in part) applies.

6. No examinations will be required for granting credit for achievement of a competency and no fee will be required for advanced credit.

7. All participating new faculty and administrators, full-time and part-time, will have training in competency-based education and will receive orientation on the articulation process described herein.

8. This agreement will be reviewed annually as stated in number two above and, in addiition, will be reviewed by the President of Thomas Nelson Community College and the Superintendent of Poquoson City School Division, or their designees, every three years.

Thomas S. Kubala
President, Thomas Nelson Community College

Superintendent of Poquoson City Schools

Thomas S. Kubala
President, Thomas Nelson Community College

Superintendent of Newport News City Schools

Thomas S. Kubala
President, Thomas Nelson Community College

Director, The Virginia Peninsula Vocational Technical Education

Thomas S. Kubala
President, Thomas Nelson Community College

Edward R. [illegible]
Superintendent of Hampton City Schools

Thomas S. Kubala
President, Thomas Nelson Community College

John S. [illegible]
Superintendent of Williamsburg-James City County Public Schools

Thomas S. Kubala
President, Thomas Nelson Community College

Superintendent of York County Public Schools

Date June 4, 1982

Date June 4, 1982

Advisory Committee

Pat Clark (NASA) - General Advisory Council - TNCC

Paul Cummings - Newport News City Schools

Ward Ellis - Williamsburg-James City County Schools

Doris Ennis - Hampton City Schools

William Sharkey (Busch Corp.) - General Advisory Council
Williamsburg-James City County Schools

Edward Spain - Poquoson City Schools

Robert Steele - York County Schools

Drafting CDC Membership

Ray Ellenson, Bethel High School - Hampton City Schools

Odis Leonard, Bethel High School - Hampton City Schools

Conrad Keesecker, Warwick High School - Newport News City Schools

PURPOSE OF COMPUTERIZED STUDENT MONITORING SYSTEM

The purpose of the computerized student monitoring system is to provide the teacher and supervisory personnel with periodic status reports regarding student progress on the vocational competencies.

Recording Student Competency Information

Using the guides developed for each content area, the teacher uses a computer readable form (see figure 1). The computer inserts competency numbers appropriate to the content area in which the student is working. As the student moves through the competencies in the area and the teacher utilizes the prescribed evaluation found in the guide, the rating given the student is marked on the scan sheet. This gives a record of the ratings given the student on the competencies in that area. At specific intervals these record sheets are fed into the computer. This information then is stored as student history. The record sheets are returned to the teacher for future use in recording student ratings. All information on the top of the scan sheet is filled in by the computer from an existing data base.

Reports Produced

After the scan sheets have been fed into the computer, three levels of reports are produced

1. Student Skill Profile - This profile lists all the competencies in the content area, the rating the student has received, and the date the rating was given. This form may be placed in the student cumulative folder as a record of his competency completion. (See figure 2).

2. Schools Skill Profile - The school skills profile accumulates information on all students taking a particular course. The report lists the competencies for the course and the percent of students receiving each rating on these competencies (see figure 3).

3. Division Skills Profile - The division skills profile accumulates the information for all students in the division taking a particular course. The report lists the competencies for the course and the percent of students receiving each rating in the division (see figure 4).

Use of Reports

The Student Skills Profile is designed to provide a record of student competencies which could be shared with the employers as well

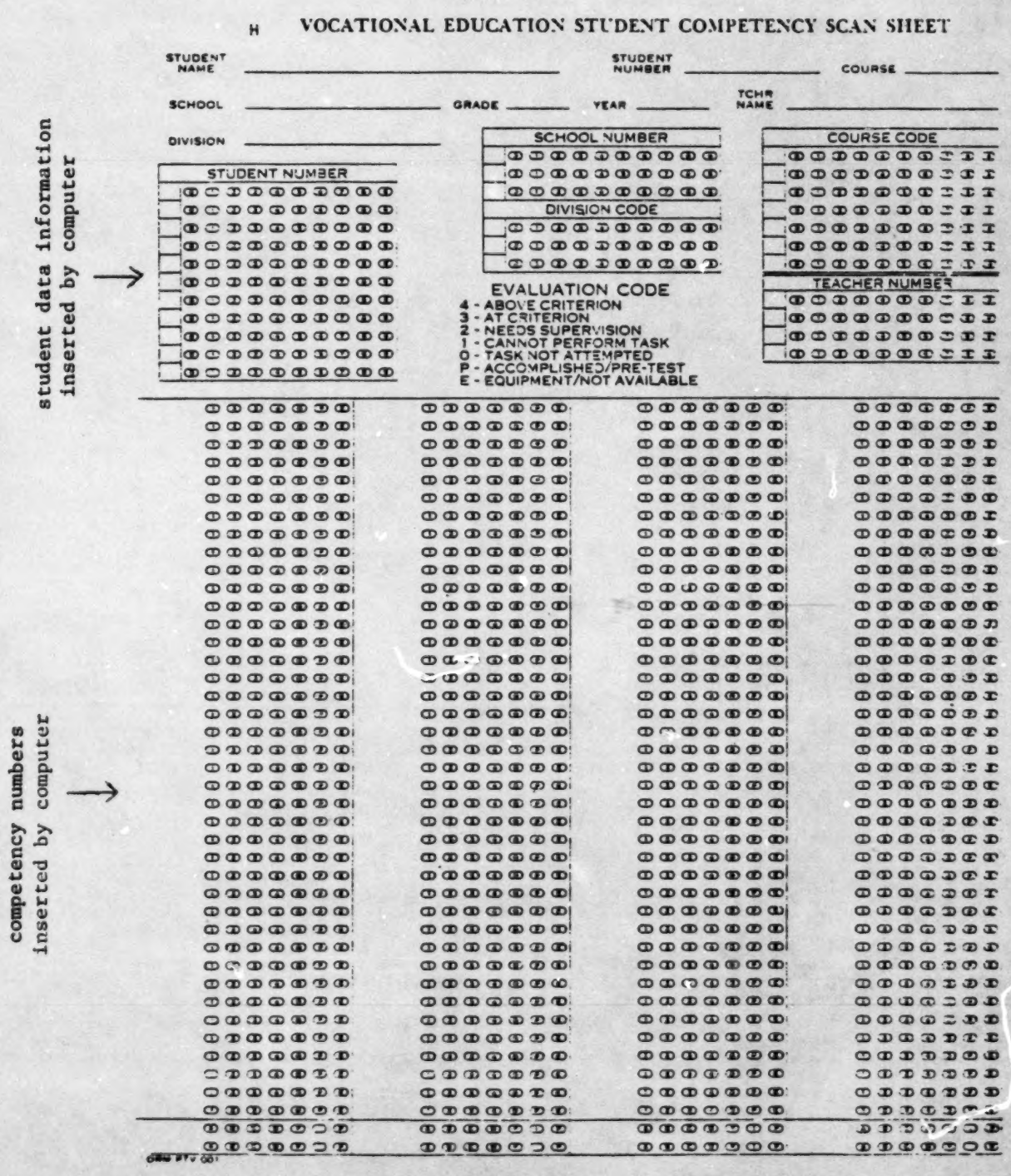
as other school personnel. It can also serve as a source of information of use to the student in discussing future instructional goals.

The School Skills Profile provides information regarding the progress of students in particular courses and can be used by building principals or division supervisors to assess the progress of students towards the stated competencies for a course. This is useful in daily supervision and provided information on the movement of students through the competencies. The report may also be produced by class by the computer which could provide an additional source of information on classroom progress toward meeting the goals of the courses.

The Division Skills Profile is designed to provide information on a division basis which could be useful in resource allocation and division-wide instructional decision making. For a division with more than one high school this provides a quick summary of progress toward the competencies on a division-wide basis. The school skills summary could then be used to further pursue any area which might be in question.

Attached Program Documentation

The attached programs are those designed to produce those reports and figures two through four. They are written for use on a Honeywell in Xerox Sigma 9-9-2 and are written in COBOL. Student data information is required in order to run these programs. Data base information is completed by use of a student data transmittal form (see figure 5).


H
VOCATIONAL EDUCATION STUDENT COMPETENCY SCAN SHEET
STUDENT NAME
STUDENT NUMBER
COURSE
SCHOOL
GRADE
YEAR
TCHR NAME
DIVISION
STUDENT NUMBER
SCHOOL NUMBER
DIVISION CODE
COURSE CODE
TEACHER NUMBER
EVALUATION CODE
4 - ABOVE CRITERION
3 - AT CRITERION
2 - NEEDS SUPERVISION
1 - CANNOT PERFORM TASK
0 - TASK NOT ATTEMPTED
P - ACCOMPLISHED/PRE-TEST
E - EQUIPMENT/NOT AVAILABLE
student data information inserted by computer
competency numbers inserted by computer

```
**********************************
*    STUDENT SKILLS PROFILE      *
*                                *
* VOCATIONAL EDUCATION PROGRAM   *
*          (VPAP)                *
**********************************
```

STUDENT NAME:
COURSE: METAL/MACHINE SHOP
COURSE NUMBER: 854800

DIVISION:
SCHOOL:
DATE: JUN 24,'81

EVALUATION CODES:

4 = ABOVE CRITERION 2 = NEEDS SUPERVISION 0 = TASK NOT ATTEMPTED E = EQUIPMENT/NOT AVAILABLE
3 = AT CRITERION 1 = CANNOT PERFORM TASK P = ACCOMPLISHED/PRE-TEST

SKILL NUMBERS	SKILL TEXT	RATING	DATE COMPL
4.0	MAINTAINING MACHINES AND TOOLS		
4.1	INSPECT WORK AREA--SAFE EQUIP.	1	06-81
4.2	INSPECT/CHANGE DR. PULLEYS OR BELTS	2	06-81
4.3	INSP.,REMOVE,REPLACE,ADJUST MACH. PARTS	3	06-81
4.4	REMOVE MACHINE PARTS	4	06-81
4.5	REPLACE/ADJUST MACHINE PARTS	0	06-81
4.6	INSPECT AND REPAIR HAND TOOLS	P	06-81
4.7	PERFORM MAINTENANCE ON LATHE	E	06-81
4.8	PERFORM MAINTENANCE ON MILL. MACH.	P	06-81
4.9	PERFORM MAINTENANCE ON DRILL PRESS	0	06-81
4.10	PERFORM MAINTENANCE ON GRINDER	4	06-81
4.11	PERFORM MAINTENANCE ON POWER SAWS	3	06-81
4.12	SELECT COOLANTS/OILS/COMPOUNDS FOR MACH	2	06-81
4.13	INSPECT ARBOR PRESS--SAFE OP. CONDITION	1	06-81
4.14	CLEAN ARBOR PRESS	2	06-81
4.15	LUBRICATE ARBOR PRESS	3	06-81
4.16	INSPECT HYDRAULIC PRESS- SAFE OP. COND.	4	06-81
4.17	CLEAN HYDRAULIC PRESS	0	06-81
4.18	LUBRICATE HYDRAULIC PRESS	P	06-81
4.19	CLEAN AND LUBRICATE VISE	E	06-81
4.20	INSTALL/INSPECT/LEVEL/FASTEN DOWN MACH.	P	06-81
4.21	CLEAN & STORE HAND TOOLS,ETC.	0	06-81
4.22	STORE GRINDING WHEEL	4	06-81
4.23	STORE PRECISION TOOLS	3	06-81
4.24	RECYCLE SCRAPS/WASTE MATERIAL	2	06-81
4.25	CLEAN/MAINTAIN WORK-ADJACENT AREAS	1	06-81
4.26	SCRAPE & PAINT MACHINES	2	06-81
4.27	PAINT FACILITIES	0	06-81
4.28	SWEEP & CLEAN SHOP FACILITY	0	06-81
4.29	PERFORM CUSTODIAL TASK		06-81
5.0	PERFORMING BENCH WORK		
5.1	CUT MATERIALS WITH HAND HACKSAW	P	06-81
5.2	CUT THREADS WITH HAND TAP	E	06-81
5.3	CUT THREADS WITH DIES	P	06-81
5.4	DISASSEMBLE & ASSEMBLE PARTS	0	06-81
5.5	HONE & LAP SURFACES	4	06-81
5.6	HAND SHARPEN CUTTING TOOLS--ABR. STONE	3	06-81
5.7	REAM HOLES WITH HAND REAMERS	2	06-81
5.8	REMOVE & REPLACE THREAD INSERTS	1	06-81
5.9	REMOVE DAMAGED SCREWS & THREAD HARDWARE	2	06-81
5.10	WORK & SHAPE METAL USING HAND TOOLS	3	06-81
5.11	CLAMP WORK IN HOLDING DEVICE	4	06-81
5.12	PERFORM BENCH FILING	1	06-81
6.0	HEAT TREATING METALS		
6.1	HEAT TREAT METALS	2	06-81
6.2	SOFTEN METALS	3	06-81
6.3	SURFACE (CASE) HARDEN METALS	4	06-81
6.4	TEMPER METALS	0	06-81
6.5	PERFORM HARDENING TECHNIQUES	P	06-81
7.0	OPERATING POWER SAWS		
7.1	DETERMINE TYPE MATERIAL TO BE SAWED	E	06-81
7.2	SELECT APPROPRIATE BLADES	P	06-81
7.3	SELECT/SET SPEEDS AND FEEDS	0	06-81
7.4	SAW HAND SAW TO SCRIBED LINES	4	06-81
7.5	MEASURE/CUT OFF MATERIALS W/PWR H.SAW	3	06-81
7.6	REMOVE/REPLACE SAW BLADES	2	06-81
7.7	CUT/WELD BAND SAW TO INSERT-CONTOUR	1	06-81
8.0	OPERATING DRILL PRESS		
8.1	CONSIDER MATERIAL OF WORK PIECE	2	06-81
8.2	CENTER PUNCH HOLE TO LOCATION	3	06-81
8.3	DETERMINE HOLDING TECHNIQUES	4	06-81
8.4	MOUNT/SECURE WORK IN HOLDING DEVICE	0	06-81
8.5	SELECT TOOL/CUTTER	P	06-81
8.6	SECURE TOOL/CUTTER IN DR. PRESS SPIN	E	06-81
8.7	SELECT SLEEVE TO SUIT DRILL	P	06-81
8.8	SET DRILL FOR PROPER FEEDS & SPEEDS	0	06-81
8.9	DRILL HOLE TO SIZE	4	06-81
8.10	SHARPEN DRILL BIT FREE HAND--CHECK	3	06-81
8.11	SHARPEN DRILL-USE GRINDING WHEEL	2	06-81
8.12	REAM HOLE TO SIZE	1	06-81
8.13	SPOT-FACE WORKPIECE	2	06-81
8.14	COUNTERSINK HOLE TO REQ.	3	06-81
8.15	COUNTERBORE TO DEPTH SPECIFIED	4	06-81
8.16	USE TAPPING ATTACHMENT TO TAP HOLE	0	06-81
8.17	HAND TAP HOLE TO SPECS.	P	06-81
8.18	USE AUTO. FEED ON DRILL PRESS	E	06-81

EXAMPLE, STUDENT PROFILE, SECONDARY

****CONTINUED****

SCHOOL :
COURSE : 854800 METAL/MACHINE SHOP
DATE : JUN 24,'81

****
* SCHOOL SKILLS PROFILE *
*
* VOCATIONAL EDUCATION PROGRAM *
* VPAP *
****

EVALUATION CODES:

4 = ABOVE CRITERION 2 = NEEDS SUPERVISION 0 = TASK NOT ATTEMPTED E = EQUIPMENT/NOT AVAILABLE
3 = AT CRITERION 1 = CANNOT PERFORM TASK P = ACCOMPLISHED/PRE-TEST

SKILL NUMBER	SKILL TEXT	RATINGS IN PERCENT						
		4	3	2	1	0	P	E
4.0	MAINTAINING MACHINES AND TOOLS							
4.1	INSPECT WORK AREA FOR SAFE WORKING EQ				88			13
4.2	INSPECT & CHANGE DRIVE PULLEYS/BELTS			63			13	
4.3	INSP.,REM.,ADJ. MACHINE PARTS		63					
4.4	REMOVE MACHINE PARTS	63		13				13
4.5	REPLACE & ADJUST MACHINE PARTS				13	50		
4.6	INSPECT & REPAIR HAND TOOLS	[illegible]		[illegible]			50	
4.7	PERFORM MAINTENANCE ON LATHE			13				50
4.8	PERFORM MAINTENANCE ON MILLING MACH.			13	13	13	38	13
4.9	PERFORM MAINTENANCE ON DRILL PRESS			25		38	13	
4.10	PERFORM MAINTENANCE ON GRINDER	38	13		13	13		
4.11	PERFORM MAINTENANCE ON POWER SAWS	13	50		13		13	
4.12	SELECT COOLANTS,OIL,COMPOUNDS- MACH. OPS.			25	50	13		
4.13	INSPECT ARBOR PRESS FOR SAFE OPERATING COND.	13	13	25	38			
4.14	CLEAN ARBOR PRESS			13	50	13	13	
4.15	LUBRICATE ARBOR PRESS			13	50			
4.16	INSPECT HYDRAULIC PRESS FOR SAFE OPER. COND.	25	25	38				
4.17	CLEAN HYDRAULIC PRESS			38	13	13	25	
4.18	LUBRICATE HYDRAULIC PRESS	13	38	13		13	25	
4.19	CLEAN AND LUBRICATE A VISE			38	13		13	25
4.20	INSTALL/INSPECT,LEVEL,& FASTEN DOWN MACHINES	13	13	13		13	25	13
4.21	CLEAN/STORE HAND TOOLS,CUTTERS,FIXTURES,JIGS,& ATTACHMENTS	25		13		25	25	
4.22	STORE GRINDING WHEEL	50	13	13			13	
4.23	STORE PRECISION TOOLS	13	38	13		13		13
4.24	RECYCLE SCRAP METAL CHIPS,SHAVINGS,TRASH OR WASTE MATERIALS	13	13	38	13			13
4.25	CLEAN AND MAINTAIN WORK AND ADJACENT NEEDS	13		13	38		13	
4.26	SCRAPE AND PAINT MACHINES		13	38	13	25		
4.27	PAINT FACILITIES		25	13	25	13	13	
4.28	SWEEP AND CLEAN SHOP FACILITIES	25		25	13	13		13
4.29	PERFORM CUSTODIAL TASKS	13		25		25	13	13
5.0	PERFORMING BENCH WORK							
5.1	CUT MATERIALS WITH HAND HACKSAW	13		13	13	13	38	
5.2	CUT THREADS WITH HAND TAPS	38		13	13			25
5.3	CUT THREADS WITH DIES		25	25	13		25	
5.4	DISASSEMBLE AND ASSEMBLE PARTS		13	13	13	38		
5.5	HONE AND LAP SURFACES	25	13	38		13		
5.6	HAND SHARPEN CUTTING TOOLS WITH ABRASIVE STONES		38	38		13		
5.7	REAM HOLES WITH HAND REAMERS	13	13	50				
5.8	REMOVE AND REPLACE THREAD INSERTS	13		25	50	13		
5.9	REMOVE DAMAGED SCREWS & OTHER NON-HARDENED THREAD HARDWARE	13	13	38	13			
5.10	WORK AND SHAPE METAL USING HAND TOOLS		63		25			13
5.11	CLAMP WORK IN HOLDING DEVICE	25	25		25			
5.12	PERFORM BENCH FILING			13	50	25		

** CONTINUED **

EXAMPLE: SCHOOL PROFILE SECONDARY

DIVISION :
COURSE : 859800 METAL MACHINE SHOP
DATE : JUN 29,'81

****
* DIVISION SKILLS PROFILE *
*
* VOCATIONAL EDUCATION PROGRAM *
* VPAP *
****

EVALUATION CODES:

4 = ABOVE CRITERION 2 = NEEDS SUPERVISION 0 = TASK NOT ATTEMPTED E = EQUIPMENT/NOT AVAILABLE
3 = AT CRITERION 1 = CANNOT PERFORM TASK P = ACCOMPLISHED/PRE-TEST

SKILL NUMBER	SKILL TEXT	RATINGS IN PERCENT						
		4	3	2	1	0	P	E
4.0	MAINTAINING MACHINES AND TOOLS							
4.1	INSPECT WORK AREA FOR SAFE WORKING EQ		57	11	32			
4.2	INSPECT & CHANGE DRIVE PULLEYS/BELTS		54	18	11			
4.3	INSP.,REM.,ADJ. MACHINE PARTS		68	4	11			7
4.4	REMOVE MACHINE PARTS	14	50	4	11		4	4
4.5	REPLACE & ADJUST MACHINE PARTS	11	43	14	14	11		
4.6	INSPECT & REPAIR HAND TOOLS	4	25	32	11		11	
4.7	PERFORM MAINTENANCE ON LATHE		46	14	11	7		11
4.8	PERFORM MAINTENANCE ON MILLING MACH.		57		11	7	7	4
4.9	PERFORM MAINTENANCE ON DRILL PRESS	4	57		7	11	4	
4.10	PERFORM MAINTENANCE ON GRINDER	14	57		11	7		
4.11	PERFORM MAINTENANCE ON POWER SAWS	7	61	4	7	4	7	
4.12	SELECT COOLANTS/OIL/COMPOUNDS- MACH. OPS.	4	57	4	14	4	4	
4.13	INSPECT ARBOR PRESS FOR SAFE OPERATING COND.	4	43	18	25	4		
4.14	CLEAN ARBOR PRESS	7	43	21	18			
4.15	LUBRICATE ARBOR PRESS		57	11	14	4		4
4.16	INSPECT HYDRAULIC PRESS FOR SAFE OPER. COND.		57	18	11	4	4	4
4.17	CLEAN HYDRAULIC PRESS		43	18	11	7		4
4.18	LUBRICATE HYDRAULIC PRESS	4	61	7	7	11	7	
4.19	CLEAN AND LUBRICATE A VISE		57	4	7	7	4	4
4.20	INSTALL/INSPECT/LEVEL/& FASTEN DOWN MACHINES	11	39	18	7		7	4
4.21	CLEAN/STORE HAND TOOLS/CUTTERS/FIXTURES/JIGS/& ATTACHMENTS	11	43	14	11	7		7
4.22	STORE GRINDING WHEEL	7	39	18	7		4	11
4.23	STORE PRECISION TOOLS	4	43	18	4		4	7
4.24	RECYCLE SCRAP METAL CHIPS/RAGS/TRASH OR WASTE MATERIALS	4	43	25	7	4	4	11
4.25	CLEAN AND MAINTAIN WORK AND ADJACENT AREAS	7	54	7	11		4	4
4.26	SCRAPE AND PAINT MACHINES	7	57	7	4	7	4	4
4.27	PAINT FACILITIES	4	61	7	7	7		
4.28	SWEEP AND CLEAN SHOP FACILITIES	7	68		11		4	4
4.29	PERFORM CUSTODIAL TASKS		64	4	11	4		4
5.0	PERFORMING BENCH WORK							
5.1	CUT MATERIALS WITH HAND HACKSAW		61	11	11		7	7
5.2	CUT THREADS WITH HAND TAPS		57	7	11	4		7
5.3	CUT THREADS WITH DIES	11	57	7	11		4	
5.4	DISASSEMBLE AND ASSEMBLE PARTS	4	54	7	11	11		
5.5	HONE AND LAP SURFACES	7	43	21	11		7	
5.6	HAND SHARPEN CUTTING TOOLS WITH ABRASIVE STONES	7	50	18	11			7
5.7	REAM HOLES WITH HAND REAMERS	4	57	7	11		4	
5.8	REMOVE AND REPLACE THREAD INSERTS		57	11	18	7	4	
5.9	REMOVE DAMAGED SCREWS & OTHER NON-HARDENED THREAD HARDWARE	4	46	7	21	4	4	
5.10	WORK AND SHAPE METAL USING HAND TOOLS		64	4	11			7
5.11	CLAMP WORK IN HOLDING DEVICE	4	54	7	11	4	7	7
5.12	PERFORM BENCH FILING		61	7	14	7	4	4

** CONTINUED **

EXAMPLE - DIVISION PROFILE SECONDARY

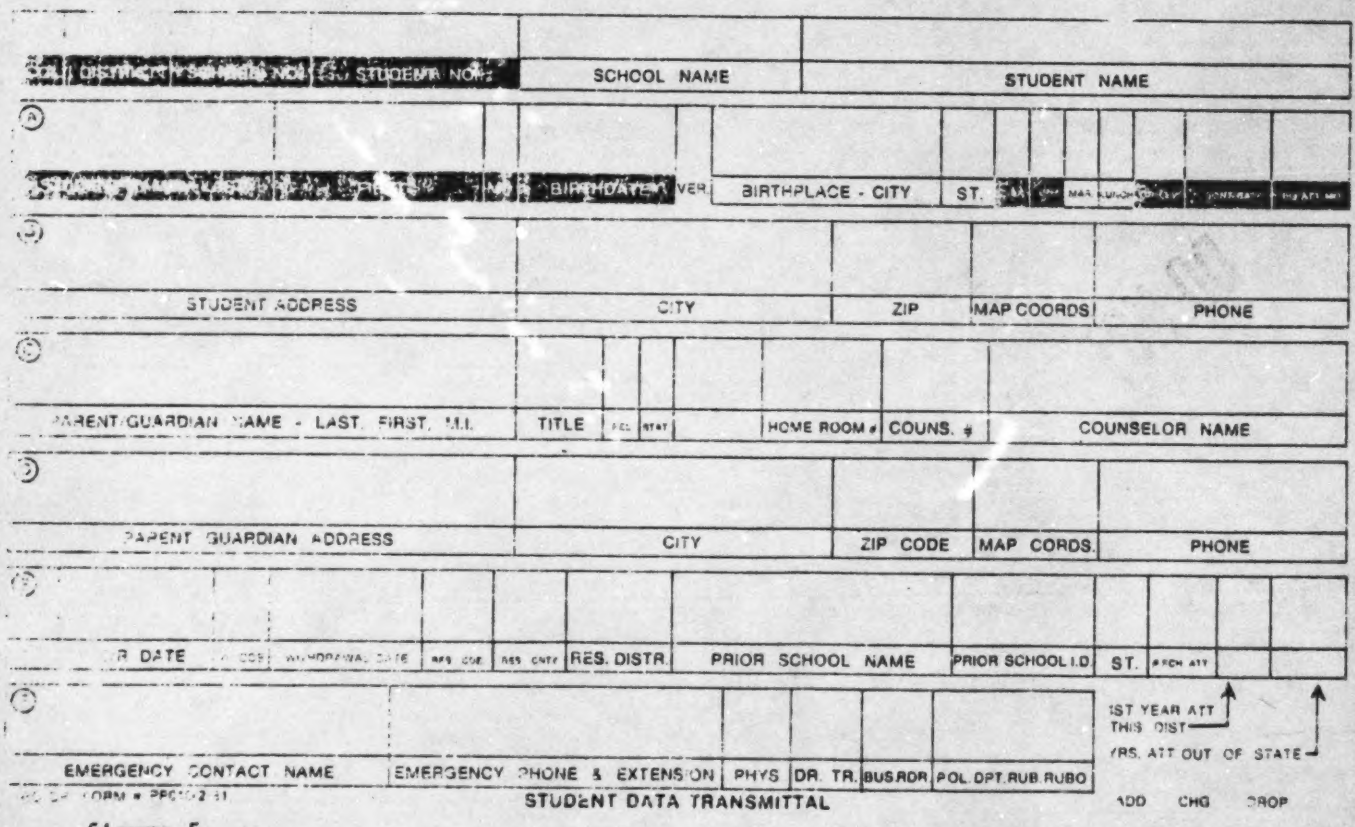


figure 5
CHANGE MESSAGE AND DATE

VOLUME 1 NUMBER 5 WINTER 1982

FROM THE DIRECTOR'S DESK

The Drafting Curriculum Development Committee (CDC) has agreed to tackle three additional Instructional Resource Guides (IRGs) in the Industrial Arts areas of: Engineering Drawing, Basic Technical Drawing, and Architectural Drawing. Both the State Department of Education and the Peninsula Articulation Project are pleased with their eagerness to continue.

The Machine Shop IRG has been edited at the state and is being typed in camera-ready copy. It is expected to be ready for disbursement prior to the end of this academic year. The Clerk Typist and Related Occupations IRG is in the process of being merged with Southwest Virginia Community College's Stenography guide. Final preparation for state editing will be made as soon as that process is complete. The Mechanical Drafting IRG is in its last revision stage and final typing will begin shortly. Both of these guides will be finished prior to the beginning of the 1982-83 academic year.

Cecil G. Phillips

PRODUCTS/PROCEDURES	CDC PROGRESS		
	MACHINE SHOP	MECHANICAL DRAFTING	CLERK TYPIST
Articulation Agreement of Participation	X	X	X
Collection of Resource Materials/Data	X	X	X
Development of Duty/Task List	X	X	X
Validation of Duty/Task List	X	X	X
Occupational/Career Information Section	X	X	X
Task Analysis Section			
Performance Objectives	X	X	✓
Enabling Objectives	X	X	✓
Criterion Referenced Measures	X	X	✓
Instructional Activities	X	X	✓
Tools/Equipment	X	X	✓
References	X	X	✓
Audio/Visual Aids	X	X	✓
Programs and Courses Section	X	✓	✓
Delivery/Management Section	X	✓	✓
Recording System Section	X	✓	✓
Information and Resources Section	X	X	✓
Public Information/AV Presentation	✓	✓	✓
Field Testing/Evaluation	X	X	✓
Project Editing/Evaluation	X	✓	
Final Review/Approval	X		
Articulation Agreement			

✓ = in progress X = completed

INSTRUCTIONAL RESOURCE GUIDE FORMAT

Completing a task of the magnitude that the state of Virginia is undertaking with competency-based education (CBE) requires a great deal of interest, enthusiasm, and expertise. Selecting a format to properly compliment the outstanding quality of the products produced by the writing team members has taken a vast expenditure of time and effort on the part of Dr. Ralph Horne, Coordination Projection Director, the various CBE/Articulation Project Directors, Dr. Kay Brown, Supervisor of Curriculum Development for the State Department of Education, and many technical as well as grammatical editors.

Thanks to these individuals and their interest and dedication, we have composed a final format for the Instructional Resource Guides (IRGs) that we believe will highlight the excellence of the materials produced.

Last, but by no means least, we must consider the efforts of Ms. Charlie Kuchinsky, Peninsula Articulation Project Secretary, who assisted Dr. Brown in final formating and trained the nine young ladies appointed by the State Department of Education to do the final typing of the IRGs. They are: Diana Lively, Dee Dee Wallace, Carla Cotman, Patsy Harsell, Gayle Heatwole, Valerie Stern, Helen Tucker, Susan Fornili, and Diane Williams. These young ladies are currently working on the following guides which are completed and ready for final typing:

1. Residential and Industrial Electricity
2. Radio and TV Repair
3. Machine Shop
4. Clothing Management
5. Agricultural Business
6. Emergency Medical Technician
7. Automotive Mechanics and Servicing

Hopefully, these guides will be ready for distribution prior to the end of this academic year. For information on how to obtain these guides, write to Dr. Kay Brown, Supervisor of Vocational Curriculum Development, State Department of Education, P. O. Box 6Q, Richmond, Virginia, 23216.

ARTICULATION--HOW IS IT IMPORTANT?

For the past three years the peninsula has been involved in an exemplary project for "Articulation of Secondary and Postsecondary Vocational Education Programs." Working hand in hand with other projects, the Virginia Peninsula Articulation Project (VPAP) has done much to promote the use of competency-based education in the state of Virginia. Key individuals who have assisted in fostering enthusiasm for the project are the Superintendents of the five school divisions involved: Hampton, Newport News, and Poquoson City Schools, and Williamsburg-James City and York County Public Schools; who, along with the Director of the Peninsula Vocational-Technical Education Center and the President of Thomas Nelson Community College, have always been eager to assist and promote the project.

We have asked these individuals to express their views of the project and what they see as articulation's possibilities and benefits:

> The articulation project has represented an outstanding cooperative effort among secondary and postsecondary educators on the peninsula. The work which has been accomplished is exemplary in every facet, and will establish a firm foundation for future program articulation efforts. Of course, students will be the primary beneficiaries, since an easy transition will take place from secondary programs to those in the community college, with minimal content duplication. Employers will benefit since the necessary employment competencies of the graduates will be fully certified through the materials which have been developed. All those who have been part of this milestone in education are to be commended for their dedication and perserverence.
>
> Thomas Kubala
> President, Thomas Nelson
> Community College

We at Peninsula Vo-Tech are enthusiastic about the educational trail articulation/CBE provides for the student guiding him/her through the education system to a career in an orderly efficient manner. The advantages which we see are:

a. an orderly curriculum,

b. a method of validating competencies,

c. uniformity of lesson outlines between our campuses,

d. industry input from craft committees assuring currency of instruction.

O. E. Ware, Ed.D
Director, Peninsula
Vocational-Technical
Education Center

I have been very impressed with the Articulation Project - Vocational Education Programs. Our school division has worked closely with the members of the project since its inception. The results of the work which the project director and committee members have achieved attest to the vital need for such a program. Now that the Mechanical Drafting, Machine Shop, and Clerk-Typist Guides are ready for implementation, I can see the importance and requirement for this approach. The students who complete these programs will be better prepared for the job market. I predict the strong support and enthusiasm from our local business and industrial community in having better qualified and better trained applicants. Our cooperation in this project has also enhanced our own efforts in implementing a similar approach in our student monitoring program. Well done!

Edward R. Szetela
Superintendent, Hampton
City Schools

Articulation has been defined as the joining together of educators (in a coordinated effort) to work in the best interest of students. The Peninsula Articulation Project certainly holds great promise for fulfilling this definition. When the project is complete, vocational students on the peninsula will be the benefactors of this coordinated effort. Among the benefits they will reap is a curriculum that recognizes a career ladder of progressively sophisticated jobs within an occupational area. If they wish to acquire more advanced skills after completing their high school program, students will be able to continue their vocational training at the postsecondary level without unnecessary duplication, expense, or loss of time. They will also acquire skills based upon the job expectancies of local employers.

Oliver C. Greenwood
Superintendent, Newport News
City Schools

Participation in the Articulation/CBE Project has been of immediate benefit to the Poquoson City School System. Teachers who have engaged in the project have gained expertise in curriculum development and in competency-based instruction and have shared information and provided leadership to other members of our vocational staff. These teachers have, in turn, incorporated concepts of competency-based instruction into other vocational programs thereby facilitating our move toward the state objective of a full competency-based program by 1984. The articulation project has provided a clearing house for curricular content and instructional techniques that will result in a program that is comprehensive, relevant, and time efficient. Advanced vocational programs for Poquoson High School students are provided through a cooperative arrangement with Thomas Nelson Community College. This highly successful program makes full program articulation between our school system and the college essential to the success of participating students. Continuation in Vocational Education beyond high school will be greatly facilitated by the Articulation Project.

Raymond E. Vernall
Superintendent, Poquoson City
Schools

Although I have been associated with the Virginia Peninsula Articulation Project for only a short time, I must say that I am extremely impressed with the magnitude and quality of tasks which have been accomplished. Especially significant is the potential for increasing the effectiveness of vocational programs and savings in time and expense for students planning to enter the job market. The availability of information about programs and program content will assist greatly in facilitating communication between our vocational training programs and potential employers within the peninsula area.

John R. Allen
Superintendent, Williamsburg-
James City County Schools

School divisions continually strive to improve and update their educational programs. The articulation project, sponsored by the peninsula school divisions, is a much needed step toward insuring that both students and taxpayers are benefiting from that updating. Establishment of competency-based curriculum provides students with relevant tasks to meet the demands of today's job market. The opportunity for students to transfer completed competencies from division to division or postsecondary education programs will result in a savings of both time for the student and dollars for the taxpayers. Once again, the close cooperative efforts of the peninsula school divisions has demonstrated that an almost impossible task can be accomplished. The project period may be drawing to an end, but I feel that the benefits of this project will continue for many years.

Donald S. Bruno
Superintendent, York County
Public Schools

EDITOR: Charlie Kuchinsky

PUBLIC RELATIONS COMMITTEE TO THE AAC:

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Marie Tyler, Chairman
Marilyn Daniels, Co-Chairman
Ken Brumley
Betty Lindsey
Roycee Bland
Cowles Spencer

"MAN IS A SPECIAL BEING AND IF LEFT TO HIMSELF IN AN ISOLATED CONDITION WOULD BE ONE OF THE WEAKEST CREATURES; BUT ASSOCIATED WITH HIS KIND, HE WORKS WONDERS."

Daniel Webster

Thomas Nelson Community College
P. O. Box 9407 • Hampton, Virginia 23670
Phone (804) 825-2700

DRAFTING/DESIGN/MECHANICAL DRAWING

Drafting - Link Laboratories, Alabama

Architectural Drafting - Central Virginia Community College, Virginia

Industrial Education Articulated Elementary Through Postsecondary Communication Cluster - Minnesota State Department of Education, Minnesota

Instructional Resource Guide for CBE in Mechanical Drafting - Thomas Nelson Community College, Virginia

Drafting-Student's Material - Okalahoma State Department of Education, Oklahoma

Architectural Drafter - Kentucky State Department of Education, Kentucky

Math, Blueprint Reading, Measuring Tools - Oklahoma State Department of Education, Oklahoma

Task Analysis Guides for the Die Designer and Jig Fixture Designer - Indiana State Department of Education, Indiana

Technical Drafting-Student Learning Plan - Dallas Independent School District, Texas

AUDIOVISUAL PRESENTATIONS

How To Implement Competency-Based Education

Implementing Virginia Competency-Based Education Standard I

Implementing Virginia Competency-Based Education Standard II

Implementing Virginia Competency-Based Education Standard III

Implementing Virginia Competency-Based Education Standard IV

How to Use the Instructional Resource Guide

Field Test Instructors

HAMPTON CITY SCHOOLS

Bethel High School - Ray Ellenson
Odis Leonard

Hampton High School - Herman Daniels

Phoebus High School - James Thompson

NEWPORT NEWS CITY SCHOOLS

Denbigh High School - Milton Cary

Ferguson High School - Charles Kinnison

Menchville High School - Bill Robinson

Warwick High School - Conrad Keesecker

POQUOSON CITY SCHOOLS

Poquoson High School - Ed Spain

YORK COUNTY SCHOOLS

Bruton High School - James Smith

Tabb High School - Carl James
Mike Woolard

York High School - Eddie Chegear

Date 10/22/82

School Tabb High School Instructor Mike Woolard

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   Mr. Woolard did not require any assistance. The only problem he stated was that the Course Content Outline in the guide differed from his method of teaching, therefore, causing him some difficulty in locating the materials for certain sections.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   He did not need further inservice training because he had the CBE course as well as inservice prior to field testing the Mechanical Drafting IRG for T&I last year.

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering YES

6. Explained that comments. ideas, or suggestions for changes in the IRG should be written on the page pertaining to that idea/comment etc., and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure?

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Commitee? YES

8. Other comments, problems, etc., that the instructor felt a need to address:

   None

Appendix J-1

Date 10/22/82

School Tabb High School Instructor Carl James

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   NONE

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering YES

6. Explained that comments, ideas, or suggestions for changes in the IRG should be written on the page pertaining to the idea/comment etc., and that the instructor need only turn in those pages on which he has made those comments at the end of the field test procedure?

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems etc., that the instructor felt a need to address:

   NONE

Date 10/22/82

School Bruton High School Instructor James Smith

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   NONE

2. Is the instructor beginning to document competencies? NO

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to thier use? If this current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural NO
   Basic Technical YES
   Engineering YES

6. Explained the comments, ideas, or suggestions for changes in the IRG should be written on the page pertaining to the idea/comment etc., and that the instructor need only turn in those pages on which he has made those comments at the end of the field test procedure?

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee?

   No, since the sub-committee need not visit this site. The instructor will not have had enough field test time to warrant a visitation by this committee.

8. Other comments, problems etc., that the instructor felt a need to address:

   NONE, other than an explanation for his inability to field test the guide prior to this point. He will begin field test procedures at the beginning of the coming grading period. At that time, he will fill out the teacher questionnaire and obtain a random sampling from his students.

Appendix J-3

Date 10/22/82

School York High School Instructor Eddie Chengear

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   NONE at this time. He hasn't had the materials very long but has been reviewing them. He expressed his concern that there was too much material to be covered.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If this current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering YES

6. Explained the comments, ideas, or suggestions for changes in the IRG should be written on the page pertaining to the idea/comment etc., and that the instructor need only turn in those pages on which he made those comments at the end of the field test procedures?

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc., that the instructor felt a need to address:

   He expressed that the use of the guide, because of its in-depth material might take away from drawing time.

   He may have questions as he continues to use the guide--will call Charlie.

Date 10/22/82

School Poquoson High School Instructor Ed Spain

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   NONE, he has had training and has served as a member of the original Drafting CDC.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for the next instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE, he has field tested before with the Mechanical Drafting IRG.

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering NO

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to that idea/comment etc., and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure?

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt a need to address:

   NONE. He will begin more in-depth implementation once the proper materials, texts, ect., have been obtained.

Appendix J-5

Date 10/22/82

School Lafayette High School Instructor Richard Adal
Hoyt Davenport

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   NONE, he is not using the guide and does not intend to.

2. Is the instructor beginning to document competencies? NO

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? NO

5. Left Student questionnaire? Architectural NO
   Basic Technical NO
   Engineering NO

6. Explained the comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc., and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES, but he stated he would not do so--would not have time.

7. Explained the purpose of the Drafting Evaluation-Sub-Committee.

   NO, there is no need for the committee to visit this site.

8. Other comments, problems etc., that the instructor felt need to address:

   Only that he is not using the guide and Mr. Davenport, the department head, stated they would not use the guide this year.

Date 10/29/82

School Denbigh High School Instructor Milton Cary

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   NONE

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   None at this time. He will receive a refresher course by Paul Cummings on November 8, 1982.

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering Drawing YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt needed to be addressed:

   NONE

Appendix J-7

Date 10/29/82

School Bethel High School Instructor Odis Leonard

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   None, he was a major writing team member of the guide.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering Drawing YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt needed to be addressed:

   NONE

Date 10/29/82

School Bethel High School Instructor Ray Ellenson

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   None, he was a major writing team member of the guide.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestion did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering Drawing YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt needed to be addressed:

   NONE

Date 10/29/82

School Hampton High School Instructor Herman Daniel

1. Does the instructor have any questions regarding the use of the guide? If so, what type of assistance does he require?

   He requires no additional assistance since he's field tested the Mechanical Drafting T & I IRG; however, he said he would make comments in the guide before returning it the the CDC for revision.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestion did he have to improve the training?

   He felt that the inservice training was sufficient but that there needed to be more coordination between the instructors and writing team members in the development of the guide.

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering Drawing YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt needed to be addressed:

   NONE

Date 10/29/82

School Warwick High School Instructor Conrad Keesecker

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   None, he was a writing team member of the guide.

2. Is the instructor beginning to document competencies?

   Not yet but he will begin to do so

3. Does the instructor see any need for more indepth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt need to address:

   NONE

Appendix J-11

Date 10/29/82

School Phoebus High School Instructor James Thompson

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   No major problems. He found some errors that needed to be corrected.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestion did he have to improve the training?

   None, other than the fear that some instructors may rely too heavily on the use of the laps rather than continuing their more extensive lecture or demonstrations.

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering Drawing YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt needed to be addressed:

   He stated that some of his advanced students feared that this form of teaching allowed too much freedom for the beginning student; that they would have been unable to handle it in the beginning.

Date 10/29/82

School Ferguson High School Instructor Charles Kinnison

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   None, other than he doesn't have all the LAPS materials for the guide.

2. Is the instructor beginning to document competencies? NO

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering YES

6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure?

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Commitee? YES

8. Other comments, problems, etc. that the field test instructor felt needed to be addresses:

   NONE

Date 10/29/82

School Menchville High School Instructor Bill Robinson

1. Does the instructor have any questions about the use of the guide? If so, what type of assistance does he require?

   The only comment he had was that he felt there should be a standarized competency form.

2. Is the instructor beginning to document competencies? YES

3. Does the instructor see any need for more in-depth inservice training for future instructional resource guides prior to their use? If the current form of inservice is insufficient, what type of suggestions did he have to improve the training?

   NONE

4. Left teacher questionnaire? YES

5. Left student questionnaire? Architectural YES
   Basic Technical YES
   Engineering Drawing YES

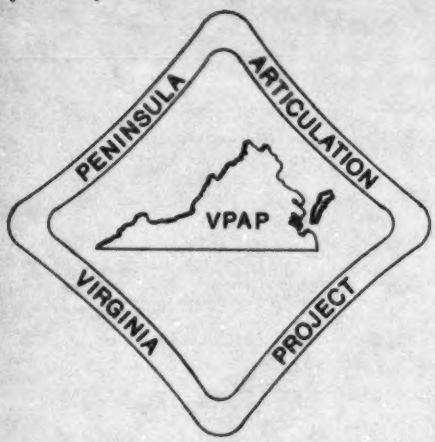
6. Explained that comments, ideas, or suggestions for changes in the instructional resource guides should be written on the page pertaining to the idea/comment etc. and that the instructor need only turn in those pages on which he has made these comments at the end of the field test procedure.

   YES

7. Explained the purpose of the Drafting Evaluation Sub-Committee? YES

8. Other comments, problems, etc. that the instructor felt needed to be addressed:

   NONE



Minutes

Articulation Executive Committee
October 6, 1982
1:30 p.m.
Room 321, Hastings Hall - TNCC

The meeting of the Articulation Executive Committee was called to order by chairman, O.E. Ware, at 2:00 p.m., in the Engineering Division Chairman's Conference Room (321) of Hastings Hall, Thomas Nelson Community College. The following members were present:

Cecil G. Phillips Jr., Articulation Project Director
Jean M. Epps, Articulation Project Co-Director
Charlie Kuchinsky, Articulation Project Assistant Director
O.E. Ware, Executive Committee Chairman
Bill Sharpe, Executive Committee Co-Chairman
Elvin H. Adams, Vocational Education Director for York County Public Schools
John Cooper, Dean of Instruction, Thomas Nelson Community College

Mr. Phillips gave an overall progress report of the project to date. We have been contracted to produce three industrial arts guides in the areas of Basic Technical Drawing, Engineering Drawing, and Architectural Drawing. These guides have been written in draft form and are currently being field tested in the following schools by the identified instructors:

PHOEBUS HIGH - James Thompson
HAMPTON HIGH - Herman Daniels
BETHEL HIGH - Ray Ellenson
BETHEL HIGH - Odis Leonard
MENCHVILLE HIGH - Bill Robinson
WARWICK HIGH - Conrad Keesecker
FERGUSON HIGH - Charles Kinnison
DENBIGH HIGH - Milton Cary
TABB HIGH - Mike Woolard
TABB HIGH - Carl James
BRUTON HIGH - James Smith
YORK HIGH - Eddie Chegear
POQUOSON HIGH - Edward Spain

Mr. Sharpe said that he believed the guides were being field tested at Williamsburg-James City County but that he had not verified this yet.

Mr. Phillips stated that he and Charlie would be making site visitations to assist field test instructors with the use of the instructional resource guides. He will contact each Executive Committee member to make arrangements for their division. Hopefully this will be done within the next two weeks or so since the target date for the end of field testing is November 1, 1982.

Evaluation instruments will be left with instructors at the time of the Director's visitations. These instruments are a Teacher Questionnaire and a Student Questionnaire that were developed specifically for this purpose. The Evaluation Committee Site Review Guide will be completed at the time of the Drafting Sub-Committee's Site Review which will take place some time prior to the end of the project.

The committee was asked to review the list of original appointees to the Articulation Advisory Committee Sub-Committee for Drafting Evaluation to determine if new appointees needed to be made for their school division. Mr. Sharpe made the following changes:

Ward Ellis will replace Allen Miller
William Sharkey will replace Lee Williams

Other changes are to be reported to Charlie as quickly as possible. The current Drafting Evaluation Sub-Committee is composed of:

Paul Cummings, Chairman - Newport News City Schools (Administration)
Pat Clark, Thomas Nelson Community College (Advisory Council)
Doris Ennis, Hampton City Schools (Guidance)
Edward Spain, Poquoson City Schools (Instruction)
Robert Steele, York County Schools (Guidance)
Ward Ellis, Williamsburg-James City County Schools (Administration)
William Sharkley, Williamsburg-James City County Schools (Advisory Council)

The target completion date for field testing and preparing of the final draft of these three instructional resource guides in January 7, 1983; however, we are allotted until June 30, 1983--depending on the length of time the funds currently budgeted for this project hold out.

Mr. Phillips asked each member to review their articulation agreement as signed by their superintendent and the President of Thomas Nelson Community College. Each emphasized the importance of maintaining the integrity of the instructional resource guide's numbering system in order for a student to be placed once reaching Thomas Nelson. He explained that each division had the option of revising the form--condensing it--as they saw fit as long as the numbers for each enabler/task remained the same. He further explained that a system has yet to be established for Thomas Nelson for placement procedures. Currently the students will be forwarded by the Counseling Center to their respective divisions, i.e., Engineering for Drafting and Machine Shop and Business for Clerk Typist. Roger Lemasters has agreed to review competency forms for placement purposes in Drafting and Dave Purves will do it for Machine Shop. There has been no decision made, as yet, for the Business Division but it is not expected that there will be any need for this division until next fall. The Dean of Instruction has agreed to work with Cecil to form a plan for placement procedures.

It was determined that the Clerk Typist T & I guide is being used at the secondary level in Newport News by eight instructor; at York County in all three schools, in Williamsburg-James City County, in Hampton, and in Poquoson. Mr. Phillips stated that Thomas Nelson is <u>not</u> currently using the guide and no reason was given for this discrepancy.

The Mechanical Drafting guide is being used in Newport News, Hampton, York County, Poquoson, Williamsburg-James City County, Vo-Tech, and Thomas Nelson.

The Machine Shop guide is being used at Newport News, Hampton, Vo-Tech, and Thomas Nelson.

Ms. Kuchinsky stated that the Virginia Peninsula Articulation Project had been approached by Marshall Tetterton, Assistant State Supervisor for Industrial Arts, to develop the instructional resource guide for Metals Technology. The advantage to this project developing that guide would be for its articulation with the T & I Machine Shop guide.

The proposal was written and submitted by both Ms. Kuchinsky and Mr. Phillips to the State Department of Education on Tuesday, October 5, 1982. She explained the discussion that ensued at that meeting with regard to the fund limitation of $2,500.00 per guide as set by the State Department of Education. The minimum funds needed just to write and type the guide in draft copy without any field testing taking place would be $3,500.00. This sum was explained to cover Charlie's salary for a ten week period, supplies, mailing, reproduction cost, possible travel expenses to the State Department of Education, and the stipend fee to writing team members of $8.25 an hour for approximately 120 hours of writing time.

She further stated that it was suggested that additional guides be taken on by the project. After consideration, Mr. Phillips and Ms. Kuchinsky recommended that the project consider taking on the reformating of the Materials and Processes of Industry guide at a cost of $2,500.00.

After much discussion the Executive Committee recommended that we also respond to the Request for Proposal for the development of an instructional resource guide in Communications Technology. Mr. Sharpe and Mr. Adams indicated that they thought they could suggest names of possible writing team members. Dr. Epps agreed to look into the matter and Mr. Phillips will approach Robert Suber for assistance from Hampton.

It was, therefore, decided to respond to all three proposals: Metals Technology, Communications Technology, and Materials and Processes of Industry.

A copy of CBE Materials currently on file in the Project Office which are available for school division use was passed out to each member. Materials not needed will be given to the Curriculum Center at the State Department of Education. The following materials are still available if any division wishes to use them; keeping them on file in their division:

Industrial Arts Instructional Resource Guide for Exploring Technology (Virginia)
A Catalog of Performance Objectives, Criterion-Referenced Measures, and Performance Guides for Timber Harvesting Occupations (VTECS)
Instructional Resource Guide for Consumer Economics-Home Management (Virginia)

Industrial Education Articulated Curriculum Elementary Through Post-secondary Construction Cluster (Minnesota)
Auto Mechanics Student Material for Measuring (Oklahoma)
Auto Mechanics Student Material for Orientation and Safety (Oklahoma)

Charlie asked the committee if they felt that it would be a good idea to continue the Articulation Newsletter for as long as the project was in effect. The consensus of the commity was that this would be helpful in keeping instructors and other personnel informed on the project's status. Charlie asked for any ideas for articles to appear in the newsletter to be sent to her as soon as possible. She will try to get one out this quarter.

A copy of the list of slide/tape presentations prepared by the Coordination Project was distributed. One copy of these presentations is on file in the Project Office for any division wishing to check them out; however, they may purchase their own copy through Dr. Ralph Horne, Virginia Tech, for the sum of $26.00.

The slide/tape presentations completed are:

HOW TO IMPLEMENT CBE
IMPLEMENTING VIRGINIA STATE CBE STANDARD I
IMPLEMENTING VIRGINIA STATE CBE STANDARD II
IMPLEMENTING VIRGINIA STATE CBE STANDARD III
IMPLEMENTING VIRGINIA STATE CBE STANDARD IV
HOW TO USE THE INSTRUCTIONAL RESOURCE GUIDE

Dr. Ware welcomed Dr. Cooper to the committee on behalf of its members and invited him to visit the Vo-Tech Center at his convenience.

There was nothing else to be said for the Good of the Order. The meeting adjourned at 3:35 p.m.

RESPONSE TO

TEACHER QUESTIONNAIRE

1. Are you using the materials developed by the Curriculum Development Committee?

   12 responses - 11 (91%) answered "YES"
   1 (09%) answered "NO"

2. Is the format easy to use?

   12 responses - 12 (100%) answered "YES"

   Would you recommend any changes?

   12 responses - 5 (41%) answered "YES"
   7 (59%) answered "NO"

3. Is the sequencing logical?

   12 responses - 10 (83%) answered "YES"
   2 (17%) answered "NO"

4. Is the suggested time realistic?

   12 responses - 10 (83%) answered "YES"
   2 (17%) answered "NO"

5. Do you need additional information to assist you in developing your lesson plan?

   12 responses - 10 (83%) answered "YES"
   2 (17%) answered "NO"

6. Is the content, instructional activities, references, AVs, etc. suitable and adequate?

   12 responses - 9 (75%) answered "YES"
   3 (25%) answered "NO"

7. Do you have any suggestions for modification of the above?

   12 responses - 7 (59%) answered "NO"
   5 (41%) answered "YES"

8. Do you have any suggested learning activities or other instructional materials you would like to recommend?

   12 responses - 8 (66%) answered "NO"
   4 (34%) answered "YES"

Appendix M

RESPONSE TO

STUDENT VIEWS TO CURRICULUM APPROACH

1. To what extent were you aware of what you were going to learn in this course?

   243 responses - 105 (43%) answered "to a great extent"
   129 (53%) answered "to a moderate extent"
   9 (04%) answered "not at all"

2. To what extent have you received individualized instruction?

   243 responses - 142 (58%) answered "to a great extent"
   93 (38%) answered "to a moderate extent"
   8 (04%) answered "not at all"

3. To what extent did your instructor check your work at the completion of learning a new skill?

   243 responses - 195 (80%) answered "to a great extent"
   45 (18%) answered "to a moderate extent"
   3 (02%) answered "not at all"

4. To what extent did you have an opportunity to demonstrate your ability to perform in the skill area?

   243 responses - 140 (57%) answered "to a great extent"
   81 (33%) answered "to a moderate extent"
   22 (10%) answered "not at all"

5. To what extent has learning been exciting for you with this curriculum approach?

   243 responses - 130 (53%) answered "to a great extent"
   109 (56%) answered "to a moderate extent"
   4 (01%) answered "not at all"

6. Are you aware of articulation opportunities with schools?

   243 responses - 128 (52%) answered "YES"
   67 (23%) answered "NO"
   48 (25%) answered "UNSURE"

ADVISORY COMMITTEE SITE REVIEW GUIDE

The following information has been compiled as a result of the Advisory Committee's on-site evaluation process:

1. What is the current status of implementation of the CBE curriculum in your course/program?

   8 responses - 3 (37%) answered "FULL"
   4 (50%) answered "PARTIAL"
   1 (13%) answered "NOT AT ALL"

   Do you have copies of core competencies and are these core competencies being distributed to the students?

   8 responses - 8 (100%) answered "YES"

   Have the students been briefed as to the advantages of this competency-based program?

   8 responses - 4 (50%) answered "YES"
   4 (50%) answered "NO"

2. Do you have the references and materials recommended in the instructional resource guide?

   8 responses - 4 (50%) answered "YES"
   4 (50%) answered "NO"

3. What recommended instructional materials are you finding most useful?

   8 responses - 2 (25%) answered "THE LAPS"
   1 (13%) answered "POST TESTS (laps info)"
   1 (13%) answered "AV REFERENCES"
   4 (49%) answered "THE ENTIRE IRG"

   Are you using the materials as indicated in the instructional resource guide?

   8 responses - 8 (100%) answered "YES"

4. To what extent are you using the instructional resource guide?

   8 responses - 5 (62%) answered "EXTENSIVELY TO FULL USE"
   (38%) answered "PARTIALLY"

5. Does the instructional resource guide provide you with enough information and direction to prepare your lesson plans?

   8 responses - 7 (87%) answered "YES"
   1 (13%) answered "NO"

If you answer is "NO", what additional materials are needed?

1 NO response answered "covers too much; more than students can cover in one year. Information too general and requires students to accomplish too much. Does not like the guide very well; considers it to be unusefull."

6. Did the inservice training session sufficiently prepare you to use the instructional resource guide?

   8 responses - 5 (62%) answered "YES"
   3 (38%) answered "NO"

7. Do you need additional assistance in using the instructional resource guide?

   8 responses - 5 (62%) answered "NO"
   3 (38%) answered "YES"

8. How do you document assessment, individualized student progress, student feedback?

   8 responses - 8 (100%) answered "YES"

9. Do you require prescribed activities for students which emphasize current and valid competencies required in the industrial arts curriculum?

   8 responses - 8 (100%) answered "YES"

GUIDE APPLICATION

This instructional resource guide is useful in developing and selecting instructional materials and in implementing competency-based education for the following program:

ARCHITECTURAL DRAWING

Additional information concerning this application and use of this guide in program planning and development should be addressed to:

Industrial Arts Education Service
Department of Education
P. O. Box 6Q
Richmond, Virginia 23216

GUIDE APPLICATION

This instructional resource guide is useful in developing and selecting instructional materials and in implementing competency-based education for the following programs:

BASIC TECHNICAL DRAWING

ENGINEERING DRAWING

Additional information concerning this application and use of this guide in program planning and development should be addressed to:

Industrial Arts Education Service
Department of Education
P. O. Box 6Q
Richmond, Virginia 23216

VIRGINIA DEPARTMENT OF EDUCATION
VOCATIONAL AND ADULT EDUCATION

PROPOSAL AND AGREEMENT FOR A VOCATIONAL EDUCATION CONTRACT OR GRANT

I. SCOPE OF SERVICES:

Type of Program or Project

X Research	___ Administration	___ Planning
___ Exemplary or Innovative	___ Disadv. & Handicapped	___ Sex Equity
___ Curriculum Development	___ Professional Dev.	___ Other _____

The Thomas Nelson Community College, P.O. Box 9407, Hampton, Virginia 23670
Name and Address of Institution, Agency, or Organization
(hereafter referred to as "contractor")

hereby submits this proposal as described in this application.

Title of Program or Project "Development of Instructional Resource Guides for Competency-Based Education in Selected Industrial Arts Areas."

Starting Date 7 / 1 / 82 (Mo. Day Yr.) Completion Date 1 / 07 / 83 (Mo. Day Yr.)

Total Cost of Project $ 7,047.00

Amount of Funding Requested (Total Project) $ 7,047.00

Amount of Funding Requested for Fiscal Year Ending June 30, 1983. $ 7,047.00

Project Director Cecil G. Phillips Jr.

Title Associate Professor/Assistant to the Division Chairman, Engineering Technologies Division,

Address Thomas Nelson Community College

P.O. Box 9407, Hampton, Virginia 23670

Telephone Number (804) 825-2901

II. PROVISIONS:

This agreement is contingent upon continued availability of public funds appropriated for this purpose and upon the parties' compliance with receipt of those funds.

The Department of Education may cancel this agreement immediately in the event funds planned or appropriated for this project are curtailed, terminated, or suspended for any reason.

[PLEASE NOTE: If this agreement is between the Virginia Department of Education and another state agency in Virginia, the contracted agency may choose to have this contract reviewed by the office of the State Attorney General to ascertain which provisions apply.]

BUDGET

July 1, 1982 to June 30, 1982

	Budget Request from State	Local Contribution
I. SALARIES		
A. Project Director Cecil Phillips, 20% release time for six (6) months	$0,000.00	$2,000.00
B. Assistant Project Director/Secretary at $5.41/hour for six (6) months	5,193.60	0,000.00
(1) FICA	349.97	0,000.00
SUBTOTAL	$5,543.57	$2,000.00
II. CONTRACTUAL SERVICES	$0,000.00	$0,000.00
III. MATERIALS AND SUPPLIES		
A. Mail	$ 50.00	$0,000.00
B. Supplies	50.00	0,000.00
C. Reproduction	50.43	0,000.00
SUBTOTAL	$ 150.43	$0,000.00
IV. TRAVEL		
A. Project participants travel	$ 640.00	$0,000.00
SUBTOTAL	$ 640.00	$0,000.00
V. OTHER RELATED EXPENSES		
A. Release time for writing team members.	$ 713.00	$0,000.00
SUBTOTAL	$ 713.00	$0,000.00
TOTAL	$7,047.00	$2,000.00

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF EDUCATION
P.O. BOX 6Q
RICHMOND, VIRGINIA 23216

Semi-Annual Requisition for Reimbursement
For a Vocational Education Contract or Grant

The Thomas Nelson Community College (Institution, Agency, or Organization) requests reimbursement from vocational funds for expenditures for period ending September 30, 1982 (Date) for

Development of Instructional Resource Guides for Competency-Based Education in Selected Industrial Arts Areas (Title of Project)

Type of Project:
- ☐ Research
- ☐ Exemplary & Innovative
- ☐ Personnel Development
- ☒ Curriculum Development
- ☐ Other: _____

Salaries paid to:	Rate of Pay (Hr., Wk., Mo.)	Amount Paid
1. Salaries (please list below)		
Charlotte Kuchinsky		$ 2,060.80
FICA/Fringe Benefits		81.04
2. Contractual Services		-0-
3. Materials and Supplies		-0-
4. Travel		47.25
5. Other Related Expenses		-0-

Total Paid $ 2,189.09

Reimbursement Requested $ 2,189.09

This is to certify that the payments listed above have been paid for expenses authorized for this project.

Finance Officer, Clerk of School Board, or other authorized signature

Chief Executive Officer or Person Authorized to Negotiate Contracts or Grants

Source of P.L. 94-482 Funds _____ Reimbursement Approved $ _____

_____ Name: _____

Date: _____ Title: _____

REVISED BUDGET

July 1, 1982 to June 30, 1983

	Budget Request from State	Local Contribution
I. SALARIES		
A. Project Director Cecil G. Phillips, 20% release time for six months	$0,000.00	$2,000.00
B. Assistant Project Director/Secretary at $5.41/hour for seven (7) months	$6,193.60	0,000.00
(1) FICA	422.97	0,000.00
SUBTOTAL	$6,616.57	$2,000.00
II. CONTRACTUAL SERVICES	$0,000.00	$0,000.00
III. MATERIALS AND SUPPLIES		
A. Mail	$ 20.00	$0,000.00
B. Supplies	50.00	0,000.00
C. Reproduction	20.43	0,000.00
SUBTOTAL	$ 90.43	$0,000.00
IV. TRAVEL		
A. Project participants travel	$ 290.00	$0,000.00
SUBTOTAL	$ 290.00	$0,000.00
V. OTHER RELATED EXPENSES		
A. Release time for writing team members	$ 50.00	$0,000.00
SUBTOTAL	$ 50.00	$0,000.00
TOTAL	$7,047.00	$2,000.00

VIRGINIA DEPARTMENT OF EDUCATION
VOCATIONAL AND ADULT EDUCATION

REQUISITION FOR REIMBURSEMENT FOR A VOCATIONAL EDUCATION CONTRACT OR GRANT

__ Semi-Annual __ Quarterly

The Thomas Nelson Community College (Institution, Agency, or Organization) requests reimbursement from funds for expenditures for period beginning September 30, 1982 and ending January 31, 1983 for Development of Instructional Resource Guides for Competency-Based Education in Selected Industrial Arts Areas (Title of Project).

Type of Project

__ Research
__ Exemplary or Innovative
X Curriculum Development
__ Administration
__ Disadv. & Handicapped
__ Personnel Training
__ Planning
__ Sex Equity
__ Other _____

Contract/Grant No. VA-83-C-133-1-AD-004

Budget Summary	Rate of Pay (Hr., Wk., Mo.)	Amount Paid
I. Salaries (please list below)		
Charlotte Kuchinsky	$5.60/hr	$ 4,211.20
FICA/Fringe Benefits		339.18
II. Contractual Services		-0-
III. Materials and Supplies		48.60
IV. Travel		233.15
V. Other Related Expenses		-0-
VI. Indirect Costs		-0-

Total Paid $ 4,832.13
Reimbursement Requested $ 4,832.13

This is to certify that the payments listed above have been paid for expenses authorized for this project.

Finance Officer, Clerk of School Board, or Other Authorized Signature

Chief Executive Officer or Person Authorized to Negotiate Contracts and Grants

STATE USE ONLY

Reimbursement Approved $ _____
State Plan Obj./Strat./Act. No. _____ __ Continuing __ Improvement
Source of P.L. 94-482 Funds _____

Date _____ Name _____ Title _____

Date _____ Name _____ Title _____

BUDGET WORK SHEET SUMMARY

	Approved Budget	Quarterly Billing	Quarterly Billing	Quarterly Billing	Quarterly Billing	Total Expenditure	Balance Forward
I. SALARIES							
A. Director	-0-						
(1) Benefits	-0-						
B. Secretary	$ 6,193.60	$ 2,060.80	$ 4,211,20			$ 6,272.00	$ -78.40
(1) Benefits	422.97	81.04	339.18			420.22	2.75
C. Consultants							
SUBTOTAL	$ 6,616.57	$ 2,141.84	$ 4,550.38			$ 6,692.22	$ -75.65
II. CONTRACTUAL SERVICES							
A. Consultants	-0-						
B. Consultant travel (20¢)	-0-						
SUBTOTAL	-0-						
III. MATERIALS/SUPPLIES							
A. Supplies	$ 50.00	-0-	$ 48.60			$ 48.60	$ 1.40
B. Materials							
C. Dissemination							
(1) Mail	20.00	-0-	-0-			-0-	20.00
(2) Repro	20.43	-0-	-0-			-0-	20.43
SUBTOTAL	$ 90.43	-0-	$ 48.60			$ 48.60	$ 41.83
IV. TRAVEL (Staff)							
A. Staff	$ 290.00	$ 47.25	$ 233.15			$ 280.40	$ 9.60
SUBTOTAL	$ 290.00	$ 47.25	$ 233.15			$ 280.40	$ 9.60
V. OTHER EXPENSES							
A. Workshops	-0-						
B. Release Time	$ 50.00	-0-	-0-			-0-	$ 50.00
SUBTOTAL	$ 50.00	-0-	-0-			-0-	$ 50.00
TOTAL	$ 7,047.00	$ 2,189.09	$ 4,832.13			$ 7,021.22	$ 25.78

Appendix O-5